

Package: mrfeed (via r-universe)

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Type Package

Title MadRat feed data package

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Description Provides feed related data.

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URL <https://github.com/pik-piam/mrfeed>,
<https://doi.org/10.5281/zenodo.3822087>

BugReports <https://github.com/pik-piam/mrfeed/issues>

Depends R (>= 2.10.0), madrat (>= 1.30), magclass (>= 3.17), mrcommons

Imports luscale, magpiesets, reshape2

Suggests covr, knitr, rmarkdown, testthat

VignetteBuilder knitr

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LazyData no

RoxygenNote 7.3.1

Repository <https://pik-piam.r-universe.dev>

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mrfeed-package	<i>mrfeed: MadRat feed data package</i>
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Description

Provides feed related data.

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See Also

Useful links:

- <https://github.com/pik-piam/mrfeed>
- [doi:10.5281/zenodo.3822087](https://doi.org/10.5281/zenodo.3822087)
- Report bugs at <https://github.com/pik-piam/mrfeed/issues>

calcFAOFeed	<i>Calculate FAO feed use</i>
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Description

Provides primary and secondary agricultural products as well as conversion byproducts used as feed. This is based on feed use values from the Food Balance Sheets (FBS) and Commodity Balance Sheets from FAOSTAT. Function is based on average values of the specified years.

Usage

```
calcFAOFeed()
```

Value

FAO feed use and corresponding weights as a list of two MAgPIE objects

Author(s)

Isabelle Weindl

See Also

[calcOutput](#)

Examples

```
## Not run:  
a <- calcFAOFeed()  
  
## End(Not run)
```

calcFAOFodder_aggrFEED	<i>Calculate FAO Fodder Crop aggregated to MAgPIE_FEED sectors</i>
------------------------	--

Description

Provides the FAOSTAT Fodder data aggregated to three MAgPIE_FEED fodder categories.

Usage

```
calcFAOFodder_aggrFEED()
```

Value

FAO fodder data and corresponding weights as a list of two MAgPIE objects

Author(s)

Isabelle Weindl

See Also

[calcOutput](#), [readSource](#)

Examples

```
## Not run:  
  
a <- calcOutput("FAOFodder_aggrFEED")  
  
## End(Not run)
```

calcFAOLivePrim

Calculate FAO Livestock Primary

Description

Provides the FAO Livestock Primary data. No changes to the content have been done, besides changes to the countries list. Yield information has been removed.

Usage

```
calcFAOLivePrim()
```

Value

FAO Livestock Primary data and corresponding weights as a list of two MAgPIE objects

Author(s)

Ulrich Kreidenweis

See Also

[calcOutput](#), [readSource](#)

Examples

```
## Not run:  
calcOutput("LivePrim")  
  
## End(Not run)
```

calcFeedRequirement *Calculate Feed Requirements*

Description

Provides MAgPIE-FEED data for Feed Requirement calculated in the regression for feed (calcRegressionFEED). No changes to the content have been done. Usually no weight needed as the data will be used in MAgPIE-FEED model which is country based.

Usage

```
calcFeedRequirement()
```

Value

MAgPIE-FEED data for Feed Requirement and corresponding weights as a list of two MAgPIE objects

Author(s)

Lavinia Baumstark, Isabelle Weindl

See Also

[calcOutput](#), [calcRegressionFEED](#), [readSource](#)

Examples

```
## Not run:  
calcOutput("FeedRequirement")
```

```
## End(Not run)
```

calcFeeduseFoddr *Calculate FAO Fodder used as feed aggregated to MAgPIE_FEED sectors*

Description

Provides the FAOSTAT Fodder feed use data (in mio ton) aggregated to three MAgPIE_FEED fodder categories.

Usage

```
calcFeeduseFoddr()
```

Value

FAO fodder feed use data and corresponding weights as a list of two MAgPIE objects

Author(s)

Isabelle Weindl

See Also

[calcProdFoddr](#), [calcOutput](#), [calcFAOFodder_aggrFEED](#), [readSource](#)

Examples

```
## Not run:  
calcOutput("FeeduseFoddr")
```

```
## End(Not run)
```

calcFoodWasteRecycle *Calculate FoodWasteRecycle*

Description

Reads in information on the share of food waste recycled for feed use of the source WirseniusPHD. Implementation of a weight calculated by calcDemandAgriculture (y2000, food.ssp2).

Usage

```
calcFoodWasteRecycle()
```

Value

MAgPIE object

Author(s)

Nele Steinmetz, Isabelle Weindl, Benjamin Leon Bodirsky

See Also

[calcOutput](#), [readWirseniusPHD](#), [convertWirseniusPHD](#)

Examples

```
## Not run:  
calcOutput("FoodWasteRecycle")
```

```
## End(Not run)
```

calcHHFoodWaste	<i>Calculate food waste</i>
-----------------	-----------------------------

Description

Provides aggregated household food waste in the units Mt DM, GE, K, NR, P and WM.

Usage

```
calcHHFoodWaste()
```

Value

food waste and corresponding weights as a list of two MAgPIE objects

Author(s)

Isabelle Weindl, Benjamin Leon Bodirsky

See Also

[calcOutput](#), [calcFoodWasteRecycle](#)

Examples

```
## Not run:  
a <- calcOutput("HHFoodWaste")
```

```
## End(Not run)
```

calcLivstProduction *Calculate FAO Livestock Production*

Description

Provides the FAO Livestock Production data aggregated to MAgPIE categories in million ton wet matter.

Usage

```
calcLivstProduction()
```

Value

FAO Livestock Production (WM) and corresponding weights as a list of two MAgPIE objects

Author(s)

Isabelle Weindl

See Also

[calcOutput](#), [readSource](#)

Examples

```
## Not run:  
calcOutput("LivstProduction")  
  
## End(Not run)
```

calcLivstSubProduction *Calculate Production allocated to livestock production subsystems*

Description

Provides the FAO Livestock Production data differentiated into livestock subsystems in million ton wet matter (based on subsystem allocation from Stefan Wirsenius).

Usage

```
calcLivstSubProduction()
```


Value

Livestock Production (WM) and corresponding weights as a list of two MAgPIE objects

Author(s)

Isabelle Weindl

See Also

[calcOutput](#), [readWirseniusSubsystems](#), [readSource](#)

Examples

```
## Not run:  
calcOutput("LivstSubProduction")
```

```
## End(Not run)
```

`calcNutrientDensity` *Calculate Feed Requirements*

Description

Provides MAgPIE-FEED data for Nutrient Density calculated in the regression for feed (`calcRegressionFEED`). No changes to the content have been done. Usually no weight needed as the data will be used in MAgPIE-FEED model which is country based.

Usage

```
calcNutrientDensity()
```

Value

MAgPIE-FEED data for NutrientDensity and corresponding weights as a list of two MAgPIE objects

Author(s)

Lavinia Baumstark, Isabelle Weindl

See Also

[calcOutput](#), [calcRegressionFEED](#), [readSource](#)

Examples

```
## Not run:  
calcOutput("NutrientDensity")
```

```
## End(Not run)
```

calcProdFoddr	<i>Calculate FAO Fodder Crop Production aggregated to MAg-PIE_FEED sectors</i>
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Description

Provides the FAOSTAT Fodder production data (in mio ton) aggregated to three MAgPIE_FEED fodder categories.

Usage

```
calcProdFoddr()
```

Value

FAO fodder production data and corresponding weights as a list of two MAgPIE objects

Author(s)

Isabelle Weindl

See Also

[calcOutput](#), [calcFAOFodder_aggrFEED](#), [readSource](#)

Examples

```
## Not run:
calcOutput("ProdFoddr")
```

```
## End(Not run)
```

calcProdSystRatio_2000	<i>Calculate ProdSystRatio for 2000</i>
------------------------	---

Description

Provides MAgPIE-FEED data for ProdSystRatio. Usually no weight needed as the data will be used in MAgPIE-FEED model country based. Data also used as input for MAgPIE, then an aggregation to regions is needed

Usage

```
calcProdSystRatio_2000()
```

Value

MAGPIE[-FEED] data for ProdSystRatio and corresponding weights as a list of two MAGPIE objects

Author(s)

Lavinia Baumstark

See Also

[calcOutput](#), [readSource](#)

Examples

```
## Not run:  
calcOutput("ProdSystRatio_2000")
```

```
## End(Not run)
```

calcRegressionFEED	<i>Calculate FEEDRequirement, NutrientDensity and YieldsLive based on regression model</i>
--------------------	--

Description

This intermediate-function prepares FEEDRequirement, NutrientDensity and YieldsLive for calc*-functions. As the source data already provides all required information this function purely selects the needed data.

Usage

```
calcRegressionFEED()
```

Value

Productivity, feed requirements and nutrient requirements as well as corresponding weights as a list of two MAGPIE objects

Author(s)

Lavinia Baumstark, Isabelle Weindl

See Also

[calcOutput](#), [readWirsenius_FEED](#)

Examples

```
## Not run:  
calcOutput("RegressionFEED")
```

```
## End(Not run)
```

convertWirsenius	<i>Convert Wirsenius data</i>
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Description

Convert Wirsenius data on ISO country level.

Usage

```
convertWirsenius(x)
```

Arguments

x MAgPIE object containing Wirsenius data country-region resolution

Value

Wirsenius data as MAgPIE object aggregated to country level

Author(s)

Lavinia Baumstark

Examples

```
## Not run: a <- convertWirsenius(x)
```

convertWirseniusPHD *Convert WirseniusPHD data*

Description

Convert Wirsenius PHD data on ISO country level.

Usage

```
convertWirseniusPHD(x)
```

Arguments

x MAgPIE object containing Wirsenius PHD data country-region resolution

Value

WirseniusPHD data as MAgPIE object aggregated to country level

Author(s)

Lavinia Baumstark

Examples

```
## Not run: a <- convertWirseniusPHD(x)
```

convertWirseniusSubsystems
 Convert Wirsenius Livestock Subsystems

Description

Convert data on livestock subsystems structure. Source: Wirsenius.

Usage

```
convertWirseniusSubsystems(x, subtype)
```

Arguments

x the data to be converted?
subtype Type of subsystem information that should be read in. Available types are: "cat-
tlemeat2milk", "meat2egg" and "feed_beefsys_ratio"

Value

magpie object of selected livestock subsystem data on country level

Author(s)

Isabelle Weindl

See Also

[readSource](#)

Examples

```
## Not run:  
a <- readSource("WirseniusSubsystems", "cattlemeat2milk")  
a <- readSource("WirseniusSubsystems", "meat2egg")  
a <- readSource("WirseniusSubsystems", "feed_beefsys")  
  
## End(Not run)
```

fullMAGPIE_FEED

fullMAGPIE_FEED

Description

Function that produces the complete country data set required for the MAgPIE-FEED model (pre-processing).

Usage

```
fullMAGPIE_FEED(rev = 0)
```

Arguments

rev data revision which should be used as input (positive numeric).

Author(s)

Isabelle Weindl, Lavinia Baumstark

See Also

[readSource](#), [getCalculations](#), [calcOutput](#)

Examples

```
## Not run:  
fullMAGPIE_FEED()  
  
## End(Not run)
```

readWirsenius	<i>Read Wirsenius</i>
---------------	-----------------------

Description

Read-in an Wirsenius data .csv file as magclass object

Usage

```
readWirsenius()
```

Value

magpie object of the Wirsenius data

Author(s)

Lavinia Baumstark

See Also

[readSource](#)

Examples

```
## Not run: a <- readSource(type="Wirsenius")
```

readWirseniusPHD *Read Wirsenius PHD*

Description

Read-in Wirsenius PHD data .csv file as magclass object

Usage

```
readWirseniusPHD()
```

Value

magpie object of the WirseniusPHD data

Author(s)

Lavinia Baumstark

See Also

[readSource](#)

Examples

```
## Not run: a <- readSource(type="WirseniusPHD")
```

readWirseniusSubsystems
 Read Wirsenius Livestock Subsystems

Description

Read in data on livestock subsystems structure. Source: Wirsenius.

Usage

```
readWirseniusSubsystems(subtype)
```

Arguments

subtype Type of subsystem information that should be read in. Available types are: "cat-tlemeat2milk", "meat2egg" and "feed_beefsys_ratio"

Value

magpie object of selected livestock subsystem data

Author(s)

Isabelle Weindl

See Also

[readSource](#)

Examples

```
## Not run:
a <- readSource("WirseniusSubsystems","cattlemeat2milk")
a <- readSource("WirseniusSubsystems","meat2egg")
a <- readSource("WirseniusSubsystems","feed_beefsys")

## End(Not run)
```

readWirsenius_FEED *Read Wirsenius_FEED*

Description

Read-in an Wirsenius_FEED data .csv files as one magclass object

Usage

```
readWirsenius_FEED()
```

Value

magpie object of the Wirsenius_FEED data

Author(s)

Lavinia Baumstark

See Also

[readSource](#)

Examples

```
## Not run: a <- readSource("Wirsenius_FEED")
```

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